

Figure 1

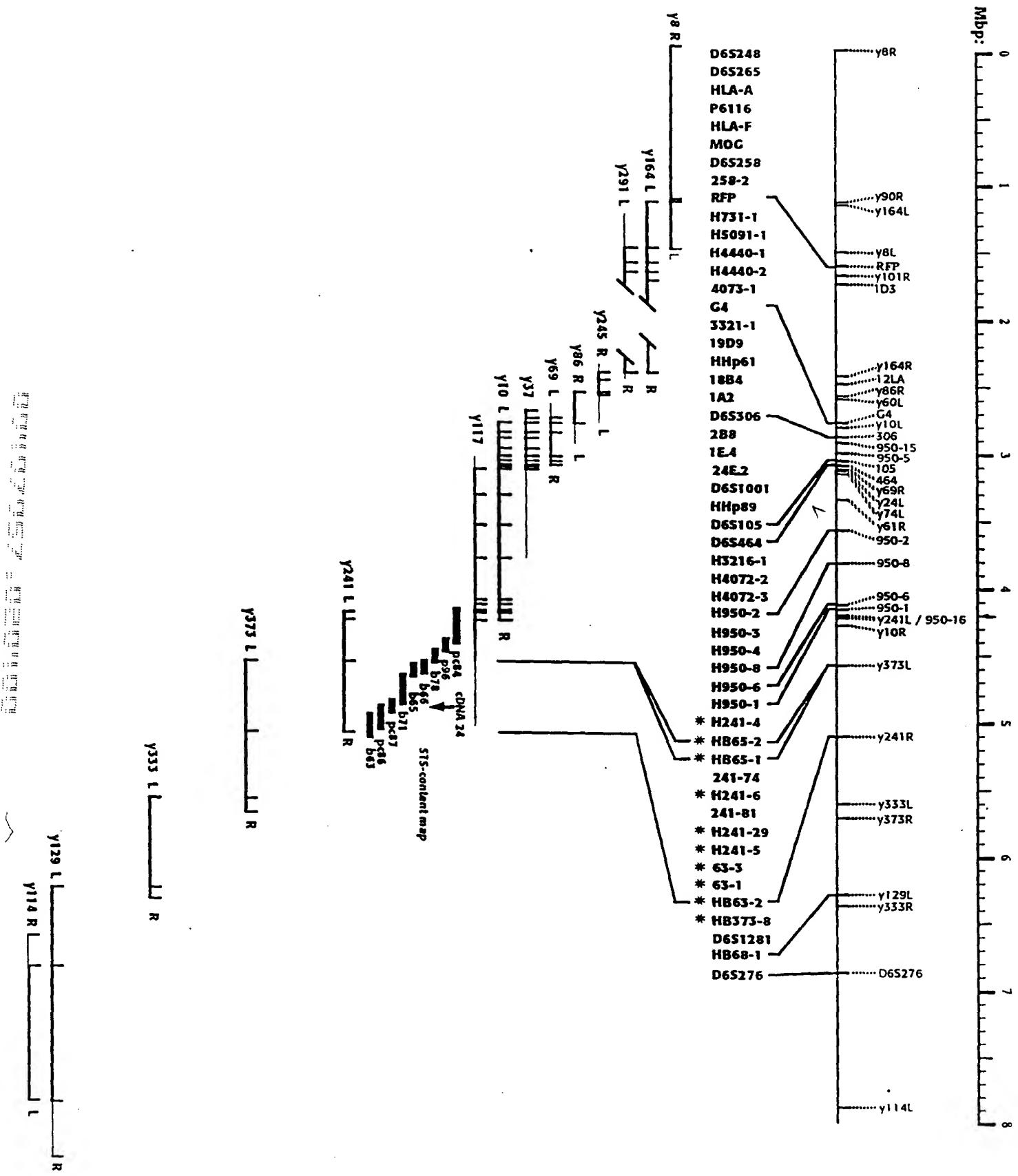


Figure 2

<u>Patients</u>	<u>Markers</u>										
	241-4	65-2	65-1	241-6	241-29	24d1	241-5	63-3	63-1	63-2	373-8
HC2											
144	161	208	193	117	A	108	169	151	113	151	
144	159	206	205	113	A	108	169	151	113	151	
HC22											
144	159	206	205	113	A	108	169	151	113	151	
144	161	208	193	117	A	108	169	151	113	151	
HC25											
144	167	210	205	113	A	108	169	151	113	151	
144	159	206	205	113	A	108	169	151	113	151	
HC29											
144	159	206	205	113	A	108	169	135	133	155	
144	159	208	205	113	A	108	169	151	113	151	
HC41											
144	159	206	205	113	A	108	169	151	113	151	
144	159	206	205	113	A	108	169	151	113	151	
HC50											
144	161	210	193	119	A	108	169	151	113	151	
144	159	206	205	113	A	108	169	151	113	151	
HC75											
144	159	206	205	113	A	108	167	139	131	153	
144	159	206	205	113	A	108	169	151	113	149	
HC87											
144	161	208	193	117	A	108	169	151	113	147	
144	159	206	205	113	A	108	169	151	113	151	
HC91											
144	208	193	117	A	108	169	151	113	155		
144	159	206	205	113	A	108	169	151	113	149	
HC125											
146	161	210	205	115	A	108	169	151	113	153	
144	159	206	205	113	A	108	169	151	113	151	
HC 143											
146	161	210	193	117	A	108	169	151	113	151	
146	159	206	205	113	A	108	169	151	113	151	

-360 tctaaaggttg agataaaaatt tttaaatgtt tgattgaatt ttgaaaatca
 -310 taaatattt aatatctaaa gtcagatca gaacattgcg aagctacttt
 -260 ccccaatcaa caacacccct tcaggattt aaaaacaagg gggacactgg
 -210 atcacctgt gtttcacaag caggtacctt ctgctgttagg agagagagaa
 -160 ctaaagtctt gaaagacctg ttgcctttca ccaggaagtt ttactggca

 -110 tctcctgagc ctaggaata gctgttagggt gacttctgga gccatccccg
 -60 tttccccggcc ccccaaaaaga agcgaggatt taacggggac gtgcggccag
 -10 agctgggaa
 1 ATGGGGCCCGC GAGCCAGGCC GGCGCTTCCTC CTCCCTGATGC TTTTGCAGAC
 51 CGCGGTCTTG CAGGGGCGCT TGCTGCgtga gtccgaggc tgcgccgaa

 101 ctaggggcgc ggcgggggtg gaaaaatcga aactagctt ttctttgcgc
 151 ttgggagttt gctaactttt gaggacctgc tcaaccctat ccgcaagccc
 201 ctctccctac ttctgcgtc cagacccctg gagggagtgcc ctaccactga
 251 actgcagata ggggtccctc gcggcaggac ctgccccctc ccccgctgt
 301 cccggctctg cggagtgact ttggAACCG cccactccct tcccccaact

 351 agaatgcctt taaaataatc tcgttagttcc tcacttgagc tgagctaagc
 401 ctggggctcc ttgaacctgg aactcggtt tatttcaat gtcagctgtg
 451 cagtttttc cccagtcate tccaaacagg aagttcttcc ctgagtgttt
 501 gcccagaagg ctgagcaaac ccacagcagg atccgcacgg ggtttccacc
 551 tcagaacgaa tgcgttgggc ggtggggcgc cgaaagagtg gcgttggga

 601 tctgaattct tcaccattcc acccactttt ggtgagaccc ggggtggagg
 651 tctctaggtt gggaggtcc tgagagaggc ctacctcggtt cttttccca
 701 ctcttgccaa ttgttctttt gcttggaaaa ttaagtatata gtttagtttg
 751 aacgttggaa ctgaaacaatt ctctttcggtt ctggcttta ttgatttgca
 801 atgtgctgtg taattaagag gcctctctac aaagtactga taatgaacat

 851 gtaagcaatg cactcaatcc taagttacat tcataatctga tcttatttga
 901 ttttcactag gcataggag gttaggagcta ataatacgat tattttacta
 951 gaagtttaact ggaattcaga ttatataact cttttcaggt tacaagaac
 1001 ataaataatc tggtttctg atgttatttc aagtactaca gctgcttcta
 1051 atcttagttt acagtgtttt tgcctctgt tagtgcacag tggtctgtgg

 1101 gtcacacgcc ggcctcagca cagcactttt agttttggta ctacgtgtat
 1151 ccacattttt cacatgacaa gaatgaggca tggcacggcc tgcttctgg
 1201 caaatttttta caatggtaca ctgggctttt gtggcagagc tcattctcc
 1251 acttcatagc tatgattttt aaacatcaca ctgcatttgc ggttgaataa
 1301 taaaatttca tggtagcag aaatattcat tgtttacaag tgtaatgag

 1351 tcccagccat gtgttgcact gttcaagccc caagggagag agcaggaaaa
 1401 caagtcttta ccctttgata ttttgcattt tagtgggaga gatgacaata
 1451 agcaaatggc cagaaagata tacaacatca ggaaatcatg ggtgttgtga
 1501 gaagcagaga agtcaggcgtt agtcactctg gggctgacac ttgagcagag
 1551 acatgaagga aataagaatg atattgactg ggacgttat tcccgaggca

 1601 aactgagttt ggcctggcaag ttggattttt aagcgggttt tctcagcact
 1651 actcatgtt gtgtgtgtgg ggggggggggg cggcgtgggg gtggaaaggg
 1701 ggactaccat ctgcatttgc tagtgcattt agtacccgtt cttccctact
 1751 cacttaggtgc taggacact ccccccagtct tgacaacccaa aaatgtctct
 1801 aaacttttgc acatgtcacc tagtagacaa actcctgtttt aagaagctcg

 1851 gggtgaaaaa aataaaacaag tagtgcgtgg ggttagagggc caagaagtag
 1901 gtaatgggtt cagaagagga gccacaaaca aggttgcgtt ggcgcctgtt

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1951 ggctgtggtg tgaattctag ccaaggagta acagtgatct gtcacaggct
 2001 tttaaaagat tgctctggct gctatgtgga aagcagaatg aagggagcaa
 2051 cagtaaaagc agggagccca gccaggaagc tgttacacag tccaggcaag

 2101 aggttagtggta gtgggctggg tggAACAGA aaagggagtg acaaaccatt
 2151 gtctcctgaa tatattctga aggaagtgc tgaaggattc tatgttgtgt
 2201 gagagaaaaga gaagaattgg ctgggtgtag tagctcatgc caaggaggag
 2251 gccaaggaga gcagattctt gagctcagga gttcaagacc agcctggca
 2301 acacagcaaa acccctctc tacaaaaaat acaaaaatta gctgggtgt

 2351 gtggcatgca cctgtatcc tagctactcg ggaggctgag gtggagggt
 2401 ttgcttgagc ccaggaagtt gaggctgcag tgagccatga ctgtccact
 2451 gtacttcagc cttagtgcaca gggcaagacc ctgtctccc tgaccctcg
 2501 aaaaagagaa gagttaaagt tgactttgtt ctttattttt attttattgg
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 2601 agggaaagagc agtttgggtt aaatcaagga tctgcatttgg gacatgtt
 2651 agttttagat tccagtcagg cttccaaatgt gtgaggccac ataggcagtt
 2701 cagttgttata attcaggacc aaggctggc acggctggctc acttctgt
 2751 tccccagcact ttgggtggctg aggccaggtag atcattttagt gtcaggagtt
 2801 tgagacaagc ttggccaaaca tggtaaaacc ccatgtctac taaaatata

 2851 aaaaattagcc tgggtgtgggt ggcacgcct atagttccag gttttcagga
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 2951 ctgagattgt gccactgcac tccagcctgg gtgatagatg gagactctgt
 3001 ctcaaaaaaaaaaaaaaaaaaaa aactgaagga attatccctc
 3051 aggatttggg tctaatttgc cctgagcacc aactccttagt ttcaactacc

 3101 atggcttagac acacctaac attttctaga atccaccagc ttttagtggag
 3151 tctgtctaat catgagttt ggaataggat ctggggggcag tgaggggggt
 3201 gcagccacgt gtggcagaga aaagcacaca agggaaagagc acccaggact
 3251 gtcataatggg agaaaagacag gactgcaact cacccttcac aaaatgagga
 3301 ccagacacag ctgatggat gagttgatgc aggtgtgtgg agcctcaaca

 3351 tcctgctccc ctccctactac acatggtaa ggcctgttgc tctgtctcca
 3401 gGTTTCTATGA TCATGAGAGT CGCCGTGTGG AGCCCCGAAC TCCATGGTT
 3451 TCCAGTAGAA TTTCCAAGCCA GATGTGGCTG CAGCTGAGTC AGAGTCTGAA

 G T
 3501 TGGTCTATGA TCATGAGAGT CGCCGTGTGG AGCCCCGAAC TCCATGGTT
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 3601 AGGGTGGAAT CACATGTTCA CTGGTGTACTT CTGGACTATT ATGGAAAATC
 3651 ACAACCACAG CAAGGgtat tggaggggg gcctcaccctt cctgaggttg
 3701 tcagagctt tcatctttt atgcattttt aaggaaacag ctggaaagtct
 3751 gaggtcttgtt gggagcaggg aagagggaaag gaatttgctt cctgagatca
 3801 ttgtgtccctt gggatggtg gaaataggga cctattccctt tgggtgtcagt

 3851 taacaaggct gggatttttt ccagAGTCCC ACACCCCTGCA GGTCATCTG
 3901 GGCTGTGAAA TGCAAGAAGA CAACAGTACC GAGGGCTACT GGAAAGTACGG
 3951 GTATGATGGG CAGGACCACC TTGAATTCTG CCCTGACACA CTGGATGG
 4001 GAGCAGCAGA ACCCCAGGGCC TGGCCCACCA AGCTGGAGTG GGAAAGGCAC
 4051 AAGATTCTGGG CCAGGCAGAA CAGGGCCTAC CTGGAGAGGG ACTGCCCTGC

 4101 ACAGCTGCAG CAGTTGCTGG AGCTGGGGAG AGGTGTTTG GACCAACAAG
 4151 gtatgtgttgg aacacactt tgccccctata ctcttagtggc aaggtggagg
 4201 aggttgcagg gcacggaatc cctgggttgg gtttcagagg tggctgaggc

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Figure 3 (3 of 5)

6601 ttccagatga gagataatgg ttcttggaaat ccaatagtgc ccagggttc
6651 atttagatgg gtgaatgagg aaaataagga agagagaaga ggcaagatgg
6701 tgcttagtt tttgtatgcct ctttcttggg tctttgtct ccacagGAGG
6751 AGCCATGGGG CACTACGTCT TAGCTGAACC TGAGTGCAC gcagcctgca
6801 gactcactgt gggaggaga caaaaactaga gactcaaaga gggagtgcatt

6851 ttatgagctc ttcatgtttc aggagagagt tgaacctaaa catagaaaatt
6901 gcctgacgaa ctccccattt tagccttct ctgttcattt cctcaaaaag
6951 attttcccat ttaggtttct gagtttgcctgc atgcccgtga tcccttagctg
7001 tgacctctcc cctggaaactg tctctcatga acctcaagct gcatctagag
7051 gttcccttca tttccctccgt cacccagag acatacacct atgtcatttc

7101 atttcctatt tttggaaagag gactccctaa atttggggga cttacatgtat
7151 tcattttaac atctgagaaa agctttgaac cctgggacgt ggctagtcatt
7201 aacccatcca gatTTTACA catgtatcta tgcatTTCT ggaccggtc
7251 aacttttccct ttagatccctc tctctgtt acccagtaac tcatctgtca
7301 ccaaggcttg gggattcttc catctgattt tgatgtgagt tgacacagct

7351 tgaaggctgt acactgcacg aatggaaagag gcacettgtcc cagaaaaaagc
7401 atcatggcta tctgtgggta gtatgtatggg tggggtagc aggttaggagg
7451 caaatatctt gaaagggggtt gtgaagaggt gtttttcta attggcatgaa
7501 aggtgtcata cagatttgc aagtttaatgg tgccttcat ttgggatgt
7551 actctagtttccctc tccagacctg aagaatcaca ataattttctt acctggcttc

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7701 tcttacaata attctatgag ataggactta ttatccccat ttctttttta
7751 aatgaagaaa gtgaagtagg cggggcacgg tggctcacgc ctgtatcccc
7801 agcactttgg gaggccaaag cgggtggatc acgaggtcag gagatcgaga

7851 ccacccctggc taacatgggt aaaccccatc tctaataaaaa atacaaaaaaa
7901 tttagctgggc gtgggtggcag acgcctgttag tcccaagctac tcggaaaggct
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8151 aatctgaccg tttgatacat ctgcacacacc actacattca gtatgtttaga
8201 tgcctagaat aaatagagaaa ggaaggagat ggcttttc tttgttctcatt
8251 gtgttttttc tgagtgtact tgaatccat gaaggggaaac agcagaaaaac
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8351 ggtctggaa tttgtactccc ttgtcttctt gttgtctctt ttggcattca
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8651 caggacatcc aggaattgtt agattctggg aaatcagttc accatgttca
8701 aaagagtctt tttttttttt tttagacttctt attggcccagg ctggagtgcatt
8751 atggcatgtat ctcggctcac tgtaacctctt gcctcccagg ttcaagcgat
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8851 tgcccggtca atttttgtat ttttagtaga gacagggtttt cccatgtttt
8901 gcccagggtgg ttcgcactc tcctgacccctc gtgtatccgc tcgcctcgcc
8951 tcccaaaatgtt ctggatattac aggtgtgagc caccctgccc agccgtcaaa

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9001 agagtcttaa tatatatatc cagatggcat gtgtttactt tatgttacta
9051 catgcacttg gctgcataaa tgtggtacaa gcattctgtc ttgaaggcg

9101 ggtgcttcag gataccatat acagctcaga agtttcttct ttaggcatta
9151 aatttttagca aagatatctc atcttcttctt taaaaccatt ttctttttt
9201 gtggtagaa aagttatgtt gaaaaaaagta aatgtgattt acgctcattt
9251 tagaaaagct ataaaaatgaa tacaattaaa gctgttattt aattagccag
9301 taaaaaaacta ttaacaactt gtcttattacc tgtagtattt attgttgcatt

9351 taaaaatgca tatactttaa taaatgtata ttgtattgtt tactgcatga
9401 ttttattgaa gttcttggttc atcttctgttata tatacttaat cgctttgtca
9451 ttttggagac atttattttt cttcttaattt ctttacattt tgtcttacgg
9501 aatattttca ttcaactgtt gtagccgaat taatcgtgtt tcttcaactct
9551 agggacatttgc tcgtctaaatgt tgtaagacat tggttattttt accagcaaacc

9601 cattctgaaa gcatatgaca aatttttctt ctcttaatattt cttactatac
9651 tgaagcaga ctgcataag gcttcactta ctcttctacc tcataaggaa
9701 taatgttacaa ttaatttttattt aggttacat ttgttttata ttgttttat
9751 ttcacctggg ctgagatttc aagaaacacc ccagtcttca cagtaacaca
9801 tttcaactaac acatttacta aacatcagca actgtggcctt gttttttttt

9851 ttaatagaaa ttttaagtcc tcattttctt tcgggtttttt ttaagcttaa
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10201 ctatgttgcatt tgctggaaatc acaggccattt gctgagctgc ctgaactggg
10251 aacacaacag aaggaaaaaca aaccactctg ataatcatgtt agtcaagtac
10301 agcaggtgttgc tgaggactgc tgagaggtac aggccaaaat tcttattttt

10351 tattataata atgtcattttataataactgt cagtatttttta taaaacattc
10401 ttccacaaact cacacacatt taaaaacaaa acactgtctc taaaatcccc
10451 aaatttttca taaaac

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Figure 4

ggggacactg gatccacctag tggttcacaa gcaggcacct tctgtctgttag gagagagaga
actaaagtcc tgaaaagacct gttgtttttc accaggaagt tttaactgggc atctcctgttag
cctaggcaat agctgttaggg tgacttcgg agccatcccc gtttccccgc ccccccaaaaag
aagcggagac ttaacgggga cgtgcggcca gagctgggga a

atgggccccg cgagccaggc
M G P R A R

cgccgccttc cccccggatg cttttgcaga ccggcggtccct gcaggggcgc ttcgtgcgttc
 P A L L L M L L Q T A V L Q G R L L R

cacactcccttgcactacccc ttcatgggtg cctcagagca ggacctcggt ctttcccttgt
S H S L H Y L F M G A S E Q D L G L S L

ttgaaagcttt gggctacgctg gatgaccaggc cggtcggtgtt ctagatgtat gaggtgtcgcc
 F E A L .G Y V D D Q L F V F Y D H E S R

gtgtggagcc ccgaactcca tgggtttcca gtagaatcc aagccagatg tggctgcagc
 R V E P R T P W V S . S R I S S Q M W L Q

tgagtcagag tctgaaaggg tgggatcaca tgccactgt tgacttctgg actattatgg
 L S Q S L K G W D H M F T V D F W T I M

aaaatcacaa ccacagcaag gagtcccaca ccctgcaggc catccctgggc ttgtgaaatgc
E N H N H S K E S H T L Q V I L G C E M

aagaagacaa cagtaccgag ggctactgga agtacgggtta tgatgggcag gaccaccccg
Q E D N S T E G Y W K Y G Y D G Q D H L

aattctggcc tgacacactg gattggagag cagcagaacc cagggccctgg cccacccaagc
 E F C P D T L D W R A A E P R A W P T K

tggagtgaaa aaggcacaag attcgggcca ggcagaacag ggcc tacctg gagaggact
L E W E R H K I R A R Q N R A Y L E R D

gccccgtgcaca gctgcagcgag ttcgcggagc tggggagagg tggccggac caacaagtgc
G P A O L Q Q L L E L G R G V L D Q Q V

cccccttggc gaagggtgaca catcatgtga ccttttcagt gaccactcta cggtgtcgggg
P P L V K V T H H V T S S V T T L R C R

ccttgaacta ctaccccccag aacatcacca tgaagtggct gaaggataag cagccaaatgg
A L N Y Y P O N I T M K W L K D G Q R M

atgccaagga gttcgaacct aaagacgtat tgcccaatgg ggatgggacc taccagggt
D A K E F E P K D V L P N G D G T Y Q G

ggataaacctt ggccgtaccc cctggggaaag agcagagata tacgtgccttag gtggaggacc

caggcctgga tcagcccccc ttttgtatct gggagcccccc accgtttcggc acccttagtc
P G I P C P I V T W F P S P S G T I V

ttggaggatcat cagtggaaatt gctgttttttg tcgttcatccctt gttcattggaa atttttgttc

taatattaag gaagaggcag ggttcaagag gagccatggg gcactacgtc ttagctgaac

gctgagtcga
|||
* * *

ggggggggat ttatcggtat ccggggggat gggggggggat gggtttttttt tttttttttt
tcgcctgacga actccccccat ctttagccttc tctgtttcatt tcctcaaaaaa gatttccccca

FIGURE 5

PCR Primers used for Amplification of 24d1 Alleles

24d1.P1 (forward primer)

5'-TGGCAAGGGTAAACAGATCC-3' (SEQ ID NO:13)

24d1.P2 (reverse primer)

5'-CTCAGGCACTCCTCTCAACC-3' (SEQ ID NO:14)

OLA Oligonucleotides for 24d1

Upstream Oligonucleotides (5'-biotinylated)

24d1.A (common allele)

5'-bio-GGAAGAGCAGAGATATACGTG-3'
(SEQ ID NO:15)

24d1.B (hemochromatosis allele)

5'-bio-GGAAGAGCAGAGATATACGTA-3'
(SEQ ID NO:16)

Downstream Oligonucleotides (5'-phosphorylated)

24d1.X 5'-p-CCAGGTGGAGCACCCAGG-dig-3'

(SEQ ID NO:17)

FIGURE 6

Figure 6a

5'—TATTCCTCCTCCAACCTATAGAAGGAAGTGAAGATTCCAGTCTTCTGGCAAGGGTAAACAGATCCCC
24d1.P1
TCTCCTCATCCTTCTCTTCTGTCAAGTGCTCCTTGGTGAAGGTGACACATCATGTGACCTCTCAG
TGACCACTCTACGGTGTGGGCCTTGAACACTACTACCCCCAGAACATCACCATGAAGTGGCTGAAGGATA
AGCAGCCAATGGATGCCAAGGAGTTGAACCTAAAGACGTATTGCCAATGGGATGGGACCTACCAGG
GCTGGATAACCTTGGCTGTACCCCCTGGGAAGAGCAGAGATATACGTGccAGGTGGAGCACCCAGGC
CTGGATCAGCCCCCTCATGTGATCTGGGTATGTGACTGATGAGAGCCAGGAGCTGAGAAAATCTATTGG
GGGTTGAGAGGAGTGCCTGAGGAGGTAAATTATGCCAGTGAGATGAGGATCTGCTCTTGTAGGGGTG
24d1.P2
GGCTGAGGGTGGCAATCAAAGGCTTAACTT-3'
(SEQ ID NO:20)

Figure 6b

5'—TATTCCTCCTCCAACCTATAGAAGGAAGTGAAGATTCCAGTCTTCTGGCAAGGGTAAACAGATCCCC
24d1.P1
TCTCCTCATCCTTCTCTTCTGTCAAGTGCTCCTTGGTGAAGGTGACACATCATGTGACCTCTCAG
TGACCACTCTACGGTGTGGGCCTTGAACACTACTACCCCCAGAACATCACCATGAAGTGGCTGAAGGATA
AGCAGCCAATGGATGCCAAGGAGTTGAACCTAAAGACGTATTGCCAATGGGATGGGACCTACCAGG
GCTGGATAACCTTGGCTGTACCCCCTGGGAAGAGCAGAGATATACGTAccAGGTGGAGCACCCAGGC
CTGGATCAGCCCCCTCATGTGATCTGGGTATGTGACTGATGAGAGCCAGGAGCTGAGAAAATCTATTGG
GGGTTGAGAGGAGTGCCTGAGGAGGTAAATTATGCCAGTGAGATGAGGATCTGCTCTTGTAGGGGTG
24d1.P2
GGCTGAGGGTGGCAATCAAAGGCTTAACTT-3'
(SEQ ID NO:21)

Figure 7

III protein	M G P A R P A L L I L U M E L O T A V I Q O G R I L R S H S L H Y L F M G A S B O D I G L S F E A L G Y V D D O L F V F
RLA	- M G S I P P R T I L L I L I A G A L T L K D T Q A G S H S M R Y E V T S V S R P G L G E P R E I I V G Y V D D T O F V R
hMHC	- M A V M A P R T L V L L S G A I A L T T O F W A G S H S M R Y E V T S V S R P G R G E P R F I A V G Y V D D T O F V R
III protein	Y D H E - - S R R V E P R E P M V S S R I S S Q M W L Q L S Q S L K C W D H M F T V D F W T I M E N H N E S - K E S H T
RLA	F D S D A A S P R M E O R A P W M G - Q V E P E Y W D Q O T O I A K D T A Q T F R V N L N T A L R Y V N Q S A N G S H T
hMHC	F D S D A A S Q R M E P R A P W I E - Q E G P E Y W D G E T R K V K A K S Q T H R V D L G T L R C Y Y N Q S E R G S H T
III protein	* * *
RLA	E Q V I L G C E M Q E D N - S T E G Y W K Y G Y D G O D H L E F C P D T L D V R A A P R A W P T K L E N E R H K I R A
hMHC	L Q W M F G C D V G S D W R E L R G Y H Q V A Y D G K D V I A L K E D I L R S W T A A D M A Q T T K H K M E A H V A E
III protein	R O N R A Y L E R D C P A Q L Q Q L E L G R G V I D Q V P P L V K V T H V T S S - V T T E R C R A L N Y X P O N T
RLA	R - H R A Y L E R E C V E W L R R Y L E M G K E T L Q R A D P P K A H V T H P A S D R E A T L R C W A L G F Y P A E I
hMHC	O - L R A Y L E C T C V E W L R R Y L E N G K E T L Q R T D A P K T H M T H M A V S D H E A T E R C W A L S E Y P A E I
III protein	T M K W L K D - - K Q P M D A K E F E P K D V L P N G D G T Y Q G W I T L A V V P P G E E Q R Y T C O V E H P G L D O P L
RLA	S L T W Q R D G E D O T O D T E L V E T R - - P G G D G T F Q K H A V V V P S G E B E Q R Y T C R V Q H E G L P E P L
hMHC	T L T W Q R D G E D O T O D T E L V E T R - - P A G D G T F Q K H A V V V P S G Q E Q R Y T C H V Q H E G L P K P L
III protein	I V I W E P S P S - G T L V I G V I S S G I A V E V U I P I G I L F I L R K R Q G S R G A M G H Y V L A E R E - - -
RLA	T L T W E P P A Q P T A L I V G I V A G - V L G V U L I L G A V V A V V R R K K H S S D G K G G R Y T P A A G G H R D Q
hMHC	T L T W E P S S Q P T P I V G I I A G L V L E G A V I T G A V V A V V W R R K S S D R K G G S K S Q A A S S D S A Q
III protein	- - - - -
RLA	G S D D S L M P - - -
hMHC	G S D V S L T A C K V

Figure 8

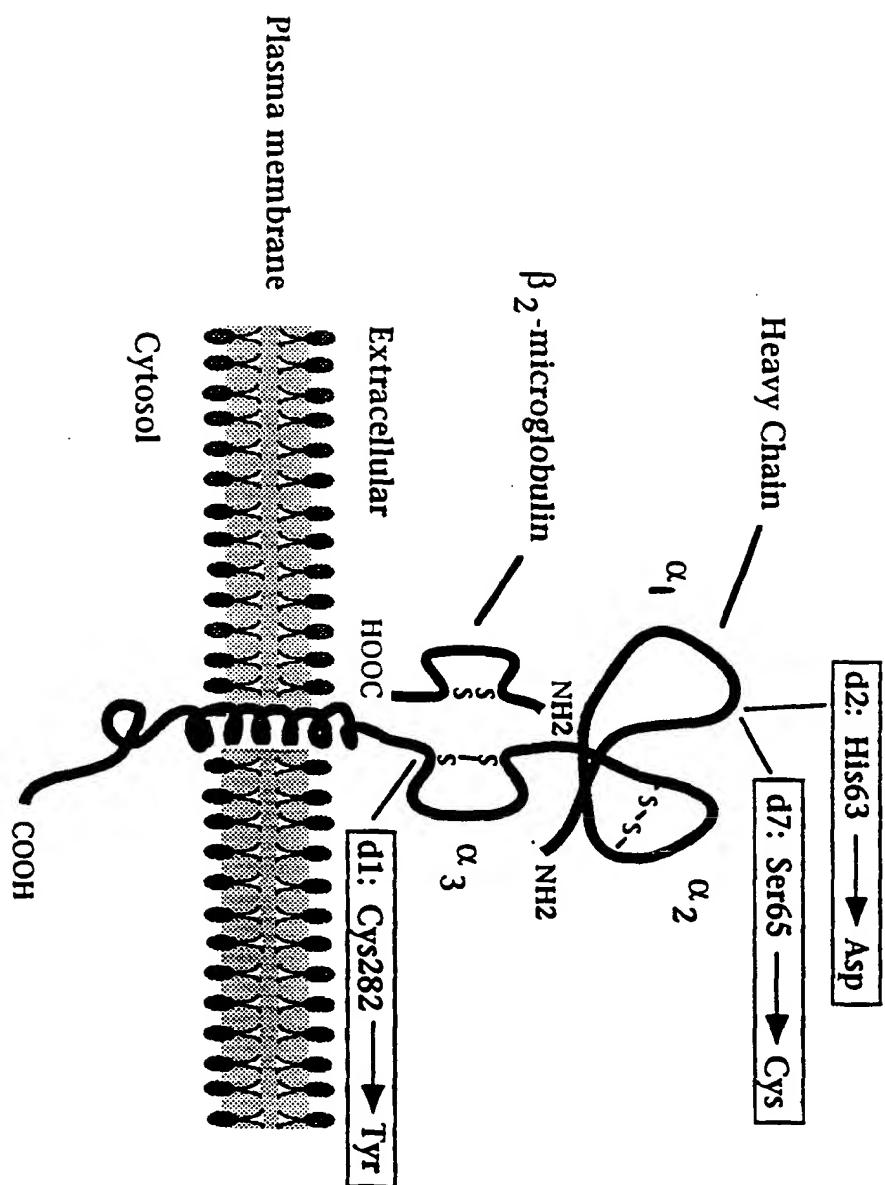


FIGURE 9

PCR Primers used for Amplification of 24d2 Alleles

24.P2.1 (forward primer)

5'-ACATGGTTAAGGCCTGTTGC-3' (SEQ ID NO:24)

24.P2.2 (reverse primer)

5'-GCCACATCTGGCTTGAAATT-3' (SEQ ID NO:25)

OLA Oligonucleotides for 24d2

Upstream Oligonucleotides (5'-biotinylated)

24d2.A (common allele)

5'-bio-AGCTGTTCGTGTCTATGATC-3'
(SEQ ID NO:26)

24d2.B (hemochromatosis allele)

5'-bio-AGCTGTTCGTGTCTATGATG-3'
(SEQ ID NO:27)

Downstream Oligonucleotides (5'-phosphorylated)

24d2.X 5'-p-ATGAGAGTCGCCGTGGA-dig-3'

(SEQ ID NO:28)